the first side has a plurality of contact surfaces ~~and on the second side~~, which is opposite the first side, has an IC chip whose terminals are connected via electrical conductors to the contact surfaces, wherein the adhesive film of claim 9 is used to connect the second side of the module to the card body.

REMARKS

This application pertains to a novel electrically conductive, thermoplastic and heat-activatable adhesive film, useful for the permanent connection of two articles.

Claims 10 and 15 stand rejected under 35 U.S.C. 112, second paragraph, because the Examiner views the Markush language of claim 10 as improper, and because claim 15 depends from a canceled claim.

Claim 10 has now been amended in accordance with the Examiner's suggestions, and the dependency of claim 15 has been corrected.

The rejection of claims 10 and 15 under 35 U.S.C. 112, second paragraph, should accordingly now be withdrawn.

Claims 9-13 and 16-18 stand rejected under 35 U.S.C. 103(a) as obvious over EPA '619 individually or in view of EPA '623.

The form of claim 9 has now been amended to clarify, but not change, its meaning. The amended claim recites exactly the same thing as the original without resort to the "and/or" expression. Thus, the original expression that the adhesive comprises "...tackifying resins...and/or...epoxy resins..." is readily understood to mean that the adhesive contain either tackifying resins, or epoxy resins, or both. The claim language has now been amended to more specifically recite this, so that the and/or expression, sometimes objected to the by the Patent Office, can be eliminated. No new matter is added and no new issue is presented.

Applicants claims, as originally filed, require that the diameter of the glass beads be at least equal to the thickness of the adhesive film. With this structure, individual beads in Applicants' adhesive make contact with both of the components that are bound by the adhesive, so that they are in electrical contact with each other through individual silver-coated glass beads. Thus, Applicants' adhesive film provides direct electrical contact through the silver-coated glass beads, but only in the z direction; not in the x direction.

By contrast, the '619 reference ***prohibits*** the use of beads having diameters that are equal to the thickness of the film. Thus, at page 4, lines 10-11, the '619 reference teaches that:

"...the thickness of an adhesive layer

is at least 110% of the average

particle size of the electroconductive particles..."

Note also the nature of the particles shown in Fig. 1, wherein the diameters of the individual particles are clearly far less than the thickness of the film. In order for the adhesive layer of the '619 reference to ***become*** conductive, the layer ***must*** be subjected to plastic deformation so that the particles can be brought into contact with one another (page 5, lines 2-6). This is in stark contrast to Applicants' conductive layer, which is conductive in its original state, since the conductive particles have diameters which are at least equal to the thickness of the film.

Thus, the '619 reference clearly teaches away from the present invention.

The Examiner would then combine EPA '623 with EPA '619. These two references are not combinable, however, because the inventive concepts of each of them would be violated by the substitution of the particles of the other. EPA '619 requires that the diameters of the particles be less than the thickness of the adhesive layer, whereas EPA '623 requires that the diameters of the particles be greater than the thickness of the adhesive layer.

Furthermore, even if one were to consider these two references together, Applicants' invention would not be rendered obvious. The particles of the '623

reference must be ***deformable***. See page 2, lines 25-28 and Fig. 3. This could not possibly lead to glass beads; and more likely, would discourage the use of glass beads, such as are recited in Applicants' claims.

It is respectfully pointed out that the mere fact that the prior art can be modified does not make the modification obvious unless the prior art suggested the desirability of the modification. See In re Fritch, 972 F.2d 1260, 1266, 23 USPQ2d 1780, 1783-84 (Fed. Cir. 1992); In re Mills, 916 F.2d 680, 682, 16 USPQ2d 1430, 1432 (Fed. Cir. 1990); In re Gordon, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984).

EPA '623 and EPA '619 are diametrically opposed to each other, with respect to the particles used. They are not combinable.

Accordingly, EPA '619, whether taken alone or in view of EPA '623 can not possibly render Applicants' claims obvious, and the rejection of claims 9-13 and 16-18 under 35 U.S.C. 113(a) as obvious over EPA '619 either individually or in view of EPA '623 should accordingly now be withdrawn.

Applicants note with appreciation that neither claims 14 nor 15 are rejected over the art. As discussed above, however, it is believed that all of the claims are allowable over the art.

In view of the above amendments and remarks, it is believed that claims 9-19 are now in condition for allowance. Reconsideration of said claims by the Examiner is respectfully requested, and the allowance thereof is courteously solicited. Should the Examiner not deem the present amendment and remarks to place the instant claims in condition for allowance, it is respectfully requested that this Amendment Under Rule 116 be entered for the purpose of placing the prosecution record in better condition for appeal.

CONDITIONAL PETITION FOR EXTENSION OF TIME

If any extension of time for this amendment is required, Applicants request that this be considered a petition therefore. Please charge the required petition fee to Deposit Account No. 14-1263.

ADDITONAL FEE

Please charge any insufficiency of fee or credit any excess to Deposit Account No. 14-1263.

Respectfully submitted,

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I hereby certify that this correspondence is being transmitted via facsimile addressed to BOX AF, Assistant Commissioner for Patents, Washington, D.C. 20231 on September 19, 2002

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Date: September 19, 2002

MARKED-UP COPIES OF AMENDED CLAIMS
SHOWING CHANGES RELATIVE TO PREVIOUS VERSIONS

Claim 9 (amended). Electrically conductive, thermoplastic and heat-activatable adhesive film, comprising

i) a thermoplastic polymer in a proportion of from 30 to 89.9% by weight,

ii) **a)** one or more tackifying resins in a proportion of from 5 to 50% by weight [and/]or

[iii)] **b)** epoxy resins with hardeners, with or without accelerators, in a proportion of from 5 to 40% by weight, [and] **or**

c) both said one or more tackifying resins in a proportion of from 5 to 50% by weight and said epoxy resins with hardeners, with or without accelerators, in a proportion of from 5 to 40% by weight,

and

[iv)] iii) silver-coated glass beads in a proportion of from 0.1 to 40% by weight,

[v)] iv) where the diameter of the glass beads is at least equal to the thickness of the adhesive film.

Claim 10. (twice amended) Adhesive film according to Claim 9, wherein the thermoplastic polymer comprises a member [of] selected from the group consisting of thermoplastic polyolefins, polyesters, polyurethanes or polyamides and modified rubbers.

Claim 15 (Amended). A method for implanting electrical modules in a card body provided with a cutout for accommodating an electronic module which on the first side has a plurality of contact surfaces and on the second side, which is opposite the first side, has an IC chip whose terminals are connected via electrical conductors to the contact surfaces, wherein the adhesive film of claim **[1]** 9 is used to connect the second side of the module to the card body.